

REF ID: A11  
ART 34 A11**WHAT IS CLAIMED IS:**

1. A process for preparing high molecular weight polycarbonate resin comprising the steps of:

5           a) melting dialkyl(aryl)carbonate and aromatic hydroxy compound and conducting transesterification thereof to prepare low molecular weight amorphous polycarbonate prepolymer with weight average molecular weight of 1,500~15,000 g/mol;

10           b) conducting condensation polymerization of the a) low molecular weight amorphous polycarbonate prepolymer to prepare middle molecular weight amorphous polycarbonate with weight average molecular weight of 20,000~30,000 g/mol;

15           c) conducting solvent-induced crystallization of the b) middle molecular weight amorphous polycarbonate to prepare semi-crystalline polycarbonate; and

          d) conducting solid state polymerization of the c) semi-crystalline polycarbonate to prepare high molecular weight polycarbonate with weight average molecular weight of 35,000~200,000 g/mol.

20           2. The process for preparing high molecular weight polycarbonate resin according to Claim 1, wherein the b) condensation polymerization is conducted with removing dialkyl(aryl)carbonate unreacted after transesterification and reaction by-products of low polymerization degree less than 3 under reduced pressure of 0~50 mmHg or by introducing nitrogen in

an amount of at least  $0.1 \text{ Nm}^3/\text{kg} \cdot \text{h}$ .

3. The process for preparing high molecular weight polycarbonate resin according to Claim 1, wherein the b) condensation polymerization is conducted in a reactor selected from a group consisting of a rotating disk reactor, rotating cage reactor and a thin film reactor.
- 5 4. The process for preparing high molecular weight polycarbonate resin according to Claim 1, wherein the mole ratio (r) of diarylcarbonate and aromatic hydroxy compound of the middle molecular weight amorphous polycarbonate prepared in step b) is in the range of  $0.9901 \leq r < 1.000$ .
- 10 5. The process for preparing high molecular weight polycarbonate resin according to Claim 1, wherein the d) solid state polymerization is conducted within 2 hours.